

encountered everywhere" in the Latin American countries, according to Manuel Elgueta, of Costa Rica, who urges that the "development of agriculture is bound to create more serious destruction of the land capital unless immediate study of land-use is carried out".

In view of the world-wide interest in under-developed areas and the implications of Mr. Truman's Fourth Point, this warning is salutary and timely—there is great danger that modern machines designed for mid-latitudes may cause untold harm in the little-understood tropics.

L. DUDLEY STAMP

## ON EXORCISING GHOSTS FROM MACHINES

### The Concept of Mind

By Prof. Gilbert Ryle. Pp. 334. (London: Hutchinson's University Library, 1949.) 12s. 6d. net.

FOR thirty years the Logical Positivists have been rolling up their sleeves, spitting on their hands and boasting about the hard work they are just about to do with their marvellous new tool 'semantics'. A feature of the new tool is supposed to be a sort of super-language to correct the defects of ordinary language. Prof. Gilbert Ryle, in the meantime, has done some genuine work in correcting the defects of language, with no fuss, no jargon, no meta-languages: just plain English and common sense. He has also produced a very readable book, although it is rather too long and repetitive.

He takes up a traditional philosophical problem, the relation of mind and body, in order to show that a dualistic theory of the Cartesian type, the "myth of the ghost in the machine" as he puts it, leads to verbal confusions. Common speech and common sense in most cases avoid these confusions successfully, recognizing the distinction between persons and things, but treating persons in a unitary way—not splitting them up into a ghostly half and a mechanical half. Prof. Ryle's method may be described as empirical study at second-hand. Through the medium of ordinary linguistic usage which has survived the test of time, he appeals to common experience which each of us can confirm for himself by reflexion. This is the useful and legitimate kind of linguistic analysis and criticism; but it is at least as old as Socrates.

Prof. Ryle shows successfully that in use the theory of the ghost in the machine tends to turn into that of a little machine inside the big one, or a little man inside the big man, carrying out hidden operations inside a private theatre or peep-show. The thing becomes a tangle of false analogies and mixed metaphors. Prof. Ryle calls false analogies and mixed metaphors by the portentous title of "category mistakes", and incidentally falls into one himself in illustrating his use of the term (p. 16). He appears to assume that we can always use direct speech with literal meaning and always avoid metaphors and analogies. Yet his own language is often just as metaphorical and analogical as the language he condemns, though the metaphors and analogies are different. In trying to exorcise the ghost from the machine, he is in danger of emptying out the baby along with the bath water.

These dangers are clearly seen in the chapters on sensation and imagination. For example, he dismisses "images" in a very ingenious but high-handed way.

When a person goes through the motions of looking or pretends to see, when there is nothing real to look at or to see, then, he says, the gap is the supposed "image". This conclusion (or prejudice) is that of one with very little mental imagery of his own who ignores all the evidence of special investigations of the past hundred years. What about the child with eidetic imagery who, when asked to draw an elephant, projects an image on the paper and runs his pencil round the outline? What about the person with a photographic memory who, when asked to quote something, can see the printed page and read off the required words?

Prof. Ryle deals in an equally high-handed fashion with the 'sense-datum' theory of perception, but never explains what he proposes to put in its place. Here, however, he is on stronger ground and his arguments deserve consideration. Yet here also he has no right to ignore all special studies of the subject, even in the sacred name of common sense. It is not far short of two centuries since Thomas Reid published his "Inquiry into the Human Mind", also an attempt to exorcise ghosts from machines and also in the name of common sense. Either ghosts are very stubborn or common sense is very feeble.

A. D. RITCHIE

## INTRODUCTION TO THE SCIENCE OF VISION

### Vision and the Eye

By Dr. M. H. Pirenne. (Frontiers of Science Series.) Pp. xx+187. (London: Chapman and Hall, Ltd., 1948.) 12s. 6d. net.

THE study of vision has now become so extensive and the literature on it so specialized that the student approaching the subject is often bewildered. Moreover, physicists, physiologists, psychologists and artists have all contributed to the welter of information. As a result, objective physical data on the properties of light, observations made during physiological experiments on animals and man, introspective analysis of subjective sensations and even practical observations on the mixing of pigments and on the effects of their juxtaposition may often be found inextricably entangled in many of the existing volumes of vision.

The author of this book is therefore to be congratulated on his objective and limited approach. He has wisely selected certain basic facts, which do not by any means cover the whole field; and he is mainly concerned with attempting a synthesis of how patterns of electromagnetic radiations, called light, falling on the eye are translated by the eye into such selective excitation of nerve fibres in the optic nerve as can eventually give rise to the perception of form, colour, distance and the like. The author is not concerned with the subjective aspects of vision, and, by eliminating these, he immediately clears the field of many of its more difficult entanglements and thus provides the student with a clear and logical approach to the subject.

While, however, the general approach is objective and logical, it is also somewhat conservative. There is also, perhaps, some lack of sympathy with the more biological aspects of vision, as, for example, in the discussion on the parts played by rods and cones and in the evolutionary aspects of the visual mechanism. Occasionally, also, the reader may feel that the